



## Ethnic and Gender Diversity in Boards of Directors and Their Relevance to Financial Performance of Malaysian Companies

Maran Marimuthu (Corresponding author)

Department of Economics, Faculty of Accountancy and Management

Tunku Abdul Rahman University (UTAR)

Bandar Sungai Long Campus, 43000 Kajang, Selangor DE., Malaysia

Tel: 60- 3- 9019-4722 E-mail: maran@utar.edu.my

Indraah Kolandaisamy

College of Business, Universiti Utara Malaysia (UUM)

06010 Sintok, Kedah DA., Malaysia

Tel: 60-4-928-3786 E-mail: indra@uum.edu.my

### Abstract

The purpose of this paper is to empirically examine the effect of demographic diversity on boards of directors with regard to firm financial performance. This paper uses secondary data of non-financial listed companies over the period 2000 to 2006. Relevant concepts, propositions, hypotheses and control variables are specially developed to meet our requirements. Demographic diversity is represented by ethnic and gender diversity and performance is measured by return on asset (ROA) and return on equity (ROE). A series of OLS regressions using on the cross-sectional data are also presented. The results seem to be quite inconsistent to prove the relevance of diversity among the board members with regard to financial performance.

**Keywords:** Gender and ethnic diversity, BODs, Performance

### 1. Introduction

Despite the major roles carried out by managers at strategic level, the boards of directors also have the primary duty and responsibility for the corporation's performance (Fischel & Bradley, 1986). The literature concerning the roles of the board of directors encompasses stewardship theory and the agency theory. The stewardship theory offers the positive effects of managers' participation in organizations (Donaldson, 1990; Donaldson & Davis 1991). Agency theory emphasizes on the agent – principal relationship which may cause agency cost as managers tend to place their personal goals ahead of the corporate goals (Jensen & Meckling, 1976, Eisenhardt, 1989). Admittedly, the board members have the obligations in maximizing shareholders' wealth through an effective monitoring or controls over top management (Kose & Senbet, 1998). The board members are also perceived to be an important device for upholding an effective corporate governance to ensure as there is a need to create adequate returns for shareholders (Vafeas, 1999; Weir & McKnight, 2001; Coles et al., 2001). Fundamentally, the resource dependence theory proposed that corporate boards are a mechanism for managing external dependencies (Pfeffer & Salancik, 1987), reducing environmental uncertainty (Pfeffer, 1972) and reducing the transaction costs associated with environmental interdependency (Williamson, 1984). In the case of Malaysia, after the 1997 Asian financial crises, the Malaysian Code of Corporate Governance has hinted on the importance of board structure, board size and independent board of directors since year 2000. And, the Bursa Malaysia has also started limiting on the number of directorship of a person starting since 2002.

Investigation on the characteristics of the top level management that mainly involves top managers and board of directors (BODs) is always the main discussion be it in the academic or corporate world. It will be of great value when we link this discussion to firm performance (Kakabadse & Kakabadse, 2006; Kakabadse et.al., 2006; Cadbury, 1992; Dahya & Travlos, 2000; Kroll, Walters & Le, 2007; Auden, 2006). Undoubtedly, women's and multi-ethnic groups' involvement in the top level management has become a very important component in understanding characteristics of the top level management including the board of directors. However, relating the characteristics of the BODs to firm

performance will be a valuable contribution. It has been noted that quite a number of studies have been carried out in this area (e.g. Burke, 1997; Burke & Nelson, 2002; Carter, Klenke, 2003).

## 2. Focus of the Study

The demographic characteristics on top management team (TMT) includes age, functional background, education, tenure, (Hambrick & Mason, 1984), who dealt with diversity within top management and its impact on firm performance that is strongly linked to the **Upper Echelon Theory**. They insisted that top management's characteristics (e.g. demographic) influence the decisions that they make and therefore the actions adopted by the organizations that they lead. It occurs because demographic characteristics are associated with many cognitive bases, values and perceptions that influence the decision making of top management. Top management members could with greater demographic diversity, influence decision making process in the top management and positively contribute to firm performance. The basic foundation of this theory could be linked to the earlier concepts on the characteristics at the top management and competitive behaviours (Cyert & March, 1963). Thus, firm performance could be positively impacted by the competitive behaviours at top level of an organization. In the case of BODs, diversity enhances greater creativity, innovativeness and quality decision making, thus this study expects the similar outcome at strategic level particularly involving the boards of directors (Zahra & Pearce, 1989) since boards are the most influential actors, boards are also to carry out the monitoring role representing shareholders (Hambrick 1996).

Research shows that increasing diversity on boards of directors would be beneficial to organization in terms of gaining critical resources (Pfeffer & Salancik, 1978) and where corporate governance is concerned, benefits at strategic level are positively related to diverse top management (Eisendardt & Bougeois, 1988). Occupational diversity among board members is also positively related to performance in the context of social obligation (Siciliano, 1996). Zander (1993), stresses that efforts must also be taken to make fullest use of the talents of board members. The presence of the demographic heterogeneity at top management level is expected to increase firm performance, hence, heterogeneity is suitable for complex, ambiguous business operations and the decision making processes are structured in nature whereas, homogeneity in top management is more effective especially when faced with unstructured decision making processes (Hambrick & Mason, 1984).

This paper expands the boundary of the upper echelon theory and its application and implications on firm performance. However, instead of focusing on age, functional background, educational background and tenure of the individual manager as most researchers have done earlier, this study focuses the proportion (in percentage) of demographic diversity based on gender and ethnicity among board members and its implications on firm performance. As clarified in the literature, demographic diversity includes gender, age, race and ethnicity whereas, cognitive diversity includes knowledge, education, values, perception, affection and personality characteristics (Maznevski, 1994; Pelled, 1996; Boeker, 1997; Watson et al., 1998; Peterson, 2000; Timmerman, 2000). There have been interesting contemporary studies on demographic diversity in relation to boards of directors and firm performance (Lee & Far, 2004; Evans & Carson, 2005; Bergen & Massey, 2005; Roberson & Park, 2007; Erhardt, et al., 2003; Certo et al., 2006; Carson, et al., 2004;).

This study is therefore to investigate the impact of diversity (demography) among the boards of directors on firm performance. Some related discussion has recently been presented by Maran (2008) and Maran & Indraah (2008). Hence, the purpose of this study is to empirically examine the relationship between demographic diversity (gender and ethnic diversity) on boards of directors with firm performance (Certo et.al., 2006, Kroll, Walters & Le, 2007; Auden, 2006).

## 3. Definition

Ethnic groups are defined as 'people of other countries' (Yin, 1973) but however, ethnic groups do not necessarily share a country of origin but instead share a sense of common political or cultural origin (Capehart, 2003). Hassan, Samian and Silong (2005) *...managing diversity is very much based on tolerance and respect ...to preserve inter-ethnic harmony.*

## 4. Theoretical Argument on Diversity

Studies reveal that the relationship between diversity and organizational or financial performance can be either positively correlated or negatively correlated and some studies show give inconclusive results. Diversity within the senior management ranks was evidenced in higher perceived levels of overall performance, profitability and return on equity (Allen, Dawson, Wheatly & White, 2008). Some empirical findings indicate that diversity results in greater knowledge, creativity and innovation and thus, organizations tend to become more competitive (Watson et al., 1993) and diversity also able to attract and retain the best talent available; reduced costs due to lower turnover and fewer lawsuits, enhanced market understanding and marketing ability, better problem solving, greater organizational flexibility and better overall performance (Coz & Blake, 1991; Griscombe & Mattis, 2002) via improvement in decision making at strategic level (Bantel, 1993). Siciliano (1996) argues that board diversity offers positive results in

performance. This is also supported by Eisenhardt et al., (1998), Smith et al., (1994), Carpenter (2002) and Greening and Johnson (1996). Heterogeneity is positively linked to better problem solving and offering creating solutions (Michael & Hambrick, 1992).

Meantime, some argue having homogeneous management team would be more beneficial with regard to firm performance (Williams & O'Reilly, 1998), homogeneous groups can also result in better performance (Murray, 1989). In fact, heterogeneity tends to lead to conflicts and negatively affect the effectiveness of communication in top management (Pelled et al., 1999; Amason, 1996; Carpenter, 2002). Besides this, racial and gender diversity can have negative effects on individual and group outcomes in certain instances (Miliken & Martins, 1996). For example, group members who differ from the majority tend to have lower levels of psychological commitment and higher levels of turnover intent and absenteeism. It should be noted that the upper echelon diversity is associated with the demographic diversity of the workforce, with evidence of homo-social reproduction taking place in organizations, particularly with regard to gender and race (Nishii, Gotte & Raver, 2007)

## 5. Hypotheses

The Upper Echelon Theory by Hambrick and Mason (1984) becomes an important input in relating heterogeneity in top management team (TMT) to firm performance. The boards of directors (BODs) that can be viewed in the same context as TMT (Hofman, Lheureux & Lamond, 1997) and it should be noted that it is not organizational performance rather financial performance that is being investigated here and demographic diversity is represented by gender and ethnic diversity (Roberson & Park, 2007; Conyon & Mallin, 1997; Daily et al., 1999; Zander, 1979; Costa & Kahn, 2003; Kang & Cnaan, 1995; Rutledge, 1994; Widmer, 1987; Carson, Mosley & Boyar, 2004). Therefore, these arguments allow us to develop a set of directional hypotheses that support a strong correlation between demographic diversity among the board members with firm financial performance, thus the following hypotheses are proposed:

*Hypothesis 1: Gender diversity among board members is positively correlated with firm financial performance*

*Hypothesis 2: Ethnic diversity among board members is positively correlated with firm financial performance.*

## 6. Methods and Measures

Top 100 Malaysian listed companies from the non-financial sector were selected for this study over the period 2000 to 2006 (Appendix 1). The selection was based on their market capitalization. This sample represented the overall performance of the main board as they accounted for almost two-thirds the total market capitalization on the main board. A financial database (OSIRIS) and companies' annual report were used for data collection. The main focus was to detect the effect of gender and ethnic diversity on board of directors (BODs) with regard to firm financial performance from year 2000 to 2006. This period reflects the beginning of the corporate governance enhancement in Malaysia (The Malaysian Code on Corporate governance, 2000). The dependent variable was financial performance, independent variables were gender and ethnic diversity and the control variables were board size, firm size and firm age. Besides this, previous years' performance was also used as part of the control variables.

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_n X_n + \varepsilon$$

$$\text{Performance} = \alpha + \beta_{\text{gender}} + \beta_{\text{ethnic}} + \Sigma \beta_{\text{control variables}}$$

The dependent variable, ROA, (net Income divided by total asset), ROE, return on equity (net Income divided by total equity) and was a measure used to measure firm financial performance (Thomas & Ramaswamy, 1994, Certo et al., 2006). The use of two different dependent variables was to check on the consistency of the regression results as both were widely adopted by researchers. The independent variables, gender and ethnic diversity on BODs were measured using a ratio scale. Gender and ethnic diversity on BODs were determined by taking female directors and non-Malay directors divided by total board directors. The control variables; board size was determined by the number of directors sitting on the board, firm total asset was a measure for firm size, firm age refers to number of years of business operations and performance of year 2000 and 2003. (Roberson & Park, 2007; Jehn & Bezrukova, 2004; Cohen & Cohen, 1975, Erhardt et al., 2003, Rosenthal & Rosnow, 1984).

## 7. Results

This study is to examine the effect of demographic diversity in boards of directors (BODs) on firm financial performance. The correlation results using the data of year 2006 are shown in Table 1. Table 2 shows the regression results using two different dependent variables (ROA and ROE) based on the cross-sectional data from year 2000 to 2006.

Table 1 reveals that ethnic diversity is significantly (positively) correlated with performance (ROA) at 0.05 (0.263), significant correlation can also be found with ROA in year 2000 and 2003. Thus, the effect is consistent with performance at different periods. In addition, gender diversity was not correlated with performance and this is a kind of early signal that gender diversity might not create any impact on firm financial performance. As for the

multi-collinearity effect, it was verified that the VIFs (Variance-inflating factor) for all the independent variables were between 1.0 and 1.3

Based on the findings in Table 2, as expected, gender effect did not have any impact on firm financial performance throughout the years except in year 2005, where it registered a positive relationship with ROE. Hence, hypothesis 1 is not supported. However, ethnic diversity did create some significant impact on financial performance in the second half of the period from 2004 to 2006. It is quite disappointing as we fail to obtain consistent results over the seven year period, however it could be viewed that ethnic diversity with regard to firm financial performance is becoming increasingly important in boards of directors. Thus, hypothesis 2 is partially supported. The graphical expressions relating to the correlation between ethnic diversity (EDIVBOD) and performance (ROA and ROE) is shown in Figure 1 and 2 below. Linear relationship between ethnic diversity and ROA is slightly steeper as compared to relationship between ethnic diversity and ROE, which is slightly flatter.

## 8. Discussions

In the case of board of directors (BODs), demographic diversity partially influenced firm financial performance. It is quite surprising when gender effect among the board members did not turn out to be significant with regard to financial performance. However, to a certain extent, ethnicity in boards of directors created a significant impact on firm financial performance. These findings are quite consistent with our earlier study (Maran & Indraah, 2009). Hence, ethnic diversity could be used an effective way to improve on corporate governance among the listed companies in the event of economic instability (Mitton, 2002). It should be added here that heterogeneity in boards of directors would further enhance the quality of corporate decisions as the members on the boards are directly involved in issuing, restructuring, takeover exercises, introducing measures to enhance regulatory, transparency, accountability and independence. Though women's role was not felt in boards of directors, again it could be argued that the effect was only for a short run.

## 9. Limitations

Some limitations or potential weaknesses in this study must be addressed. First, homogeneous characteristics of the companies selected might have been violated as there various industries involved. The sample size could be relatively smaller and the data collected involved only large companies. There could be different effects on different sizes of company. There could also be a curvilinear relationship between demographic diversity and financial performance. This means diversity may result in adverse results for a certain period, followed by indifferent results, then positive relationship with regard to performance.

## 10. Conclusions

Despite the inconsistent findings, we believe this study has offered some meaningful information especially in terms our readiness and the need to emphasize on the gender and ethnic diversity in boards of directors. Admittedly, this study fails to draw a conclusive set of findings on the relevance of heterogeneity among board members. However, it is believed that many companies on the other hand do prefer homogeneity at top level management especially for decision making process. Probably, more research should be carried on different samples involving different industries to further verify the results.

## References

- Allen, R.S., Dawson, G., Wheatly, K. and White, C.S. (2008). Perceived diversity and organizational performance. *Employee Relation*, 30(1), 20-33.
- Amason, A. C. (1996). Distinguishing the effects of functional and dysfunctional conflict on strategic decision making: Resolving a paradox for top management teams. *Academy of Management Journal*, 39, 123-148.
- Auden, W. C., Shackman, J. D. and Onken, M. H. (2006). Top management team, international risk management factor and firm performance. *Team Performance Measurement*, 12, 7(8), 209-224.
- Bantel, K. (1993). Strategic clarity in banking: Role of top management-team demography. *Psychology Reports*, 73, 1187-1203.
- Bergen, V. C. W. and Massey, J. (2005). Workforce diversity and organizational performance. *Equal opportunities International*, 24, 1-16.
- Bernardi, R. A., Bean, D. F. and Weippert, K. M. (2002). Signaling gender diversity through annual report pictures: a research note on image management. *Accounting, Auditing and Accountability Journal*, 15 (4), 609-616.
- Boeker, W. (1997). Executive migration and strategic change: The effect of top manager movement on product-market entry. *Administrative Science Quarterly*, 42, 213-237.
- Burke, R.J. (1997). Women on corporate boards of directors a needed resource. *Journal of Business Ethics*, 16, 909-15.

- Burke, R. and Nelson, D. (2002). *Advancing women in management: Progress and prospects. Advancing Women's Careers*. Oxford: Blackwell.
- Cadbury, A. (1992). Report of the committee on the financial aspects of corporate governance, Gee & Co., London.
- Carpenter, M. A. (2002). The implications of strategy and social context for the relationship between top management team heterogeneity and firm performance. *Strategic Management Journal*, 23, 275-284.
- Carson, C. M., Mosley D. C. and Boyar, S. L. (2004). Performance gains through diverse top management teams. *Team Performance Management*, 10, 121-126.
- Certo, S. T., Lester, R. H. and Dalton, D. R. (2006). Top management teams, strategy and financial performance: A Meta-analytic examination. *Journal of Management studies*, 43, 813-839.
- Cohen, J. and Cohen, P. (1975). *Applied multiple regression/correlation analysis for the behavioural sciences*. Hillsdale, NJ: Lawrence Erlbaum.
- Coles, J. W., Mc Williams, V. B. and Sen, N. (2001). An examination of the relationship of governance mechanisms to performance. *Journal of Management*, 27, 23-50.
- Conyon, M. and Mallin, C. (1997). Women in the board room: Evidence from large UK companies. *Corporate governance*, 5, 112-117.
- Costa, Dora. and Mathew, E. K. (2003). Cowards and heroes: Group loyalty in the American Civil War. *Quarterly Journal of Economics*, 118(2), 519-548.
- Cox, T. and Blake, S. (1991). Managing cultural diversity: Implication for organizational effectiveness. *Academy of Management Executive*, 5 (3), 45-55.
- Cyert, R. M. and March, J. G. (1963). *A Behavioral theory of the firm*. New Jersey:Prentice Hall.
- Dahya, J. and Travlos, N. G. (2000). Does one man show pay? Theory and evidence on the dual CEO revisited. *European Financial Management*, 6(1), 88-98.
- Daily, C., Certo, S. and Dalton, D., (1999). A decade of corporate women: some progress in the board room: None in the executive suite. *Strategic Management Journal*, 20, 93-99.
- Donaldson, L. (1990). The ethereal hand: Organizational economics and management theory. *Academy of management review*, 15, 369-381.
- Donaldson, L. and Davis, G. H. (1991). Stewardship theory or agency theory: CEO governance and shareholder returns. *Australia Journal of management*, 16, 49-64.
- Donaldson, L. (1994). Board and company performance: Research challenges the conventional wisdom. *Corporate governance: An International review*, 2(3), 151-160.
- Eisenhardt, K. M. and Bougeois, L. J. (1988). Politics of strategic decision making in high-velocity environments: Toward a midrange theory. *Academy of Management Journal*, 31(4), 737-770.
- Eisenhardt, K. M. (1989). Agency theory: An assessment and review. *Academy of management review*, 14, 57-74.
- Erhardt, N. L., Werbel, J. D. and Shrader, C. B. (2003). Board of director diversity and firm financial performance. *Corporate Governance*, 11, 102-111.
- Evans, W. R. and Carson, C. M. (2005). A social capital explanation of the relationship between functional diversity and group performance. *Team Performance Management*, 11, 302-314.
- Fischel, D. and Bradley, M. (1986). The role of liability rules and the derivative suit in corporate law: A theoretical and empirical analysis. *Cornell Law Review*, 71, 261-283.
- Greening, D. W. and Johnson, R. A. (1996). Do managers and strategies matter? A study in crisis. *Journal of Management Studies*, 33, 25-51.
- Griscombe, K. and Mattis, M. C. (2002). Leveling the playing field for women of color in corporate in management : Is the business case enough?. *Journal of Business Ethics*, 37, 103-109.
- Hambrick, D. C. and Mason, P. A. (1984). Upper echelons: The organization as a reflection of its top managers. *Academy of Management Review*, 9, 193-206.
- Hambrick, D. C., Cho, T. S. and Chen, M. (1996). The influence of top management team heterogeneity on firms' competitive moves. *Administrative Science Quarterly*, 41, 659-685.
- Hassan, Z., Samian, A. L. and Silong, A. D. (2006). *Readings on ethnic relations in a multicultural society: Perspectives and research on national unity and integration*. Serdang: Universiti Putra Malaysia.

- Hoffman, J. J., Lheureux, R. A. and Lamont, B. T. (1997). The effect of inner and outer TMT size on the performance of international firms. *Journal of Managerial Issues*, 9, 121-135.
- Jehn, K. A. and Bezrukova, K. (2004). A field study of group diversity, workgroup context, and performance. *Journal of Organizational Behavior*, 25, 703-729.
- Jensen, M.C. and Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics*, 3, 305-330.
- Kakabadse, N. K. and Kakabadse, A. P. (2006). Chairman of the board: demographics effects on role pursuit. *Journal of Management Development*, 26(2), 169-192.
- Kakabadse, N. K., Kakabadse, A. P. and Barrat, R. (2006). Chairman and chief executive officer (CEO): That sacred and secret relationship. *Journal of Management Development*, 25(2), 134-50.
- Kang, C. H. and Cnaan, R. A. (1995). New findings on large human service organization boards of trustees. *Administration in Social Work*, 19, 17-44.
- Klenke, K. (2003). Gender influences in decision making processes in top management teams. *Management Decision*, 41(10), 1024-1034.
- Kose, J. and Senbet, L. (1998). Corporate governance and board effectiveness. *Journal of Banking and Finance*, 22(4), 371-403.
- Kroll, M., Walters, B. A. and Le Son, A. (2007). The impact of board composition and top management team ownership structure on post-IPO performance in young entrepreneurial firms. *Academy of management Journal*, 50(5), 1198.
- Lee, C. and Farh, J. L. (2004). Joint effects of group efficacy and gender diversity on group cohesion and performance. *Applied psychology: An International Review*, 53, 136-154.
- Maznevski, M. L. (1994). Understanding our differences: Performance in decision-making groups with diverse members. *Human Relations*, 47, 531-552.
- Maran, M. (2008). Ethnic diversity on boards of directors and its implications on firm financial performance. *The Journal of International Social Research*, 1(4), 431-445.
- Maran, M. and Indraah, K. (2008). Demographic diversity, top management team, board of directors and firm financial performance: Malaysian evidence. *Proceedings of the Applied International Business Conference 2008*, 291-303, Labuan, Malaysia: Labuan School of International Business and Finance.
- Maran, M. and Indraah, K. (2009). Demographic diversity in top level management and its implications on firm financial performance: An empirical discussion. *International Journal of Business Management*, 4(6), 176-188.
- Michel, J. G. and Hambrick, D. C. (1992). Diversification posture and top management team characteristics. *Academy of Management Journal*, 35, 9-37.
- Milliken, F. and Martins, L. (1996). Searching for common threads: Understanding the multiple effects of diversity in organizational groups. *Academy of Management Review*, 21, 402-434.
- Mitton, T. (2002). A Cross-firm analysis of the impact of corporate governance on the east asian financial crisis. *Journal of Financial Economics*, 64, 215-241.
- Murray, A. (1989). Top Management group heterogeneity and firm performance. *Strategic Management Journal*, 10, 125-141.
- Nishii, L.H., Gotte, A. and Raver, J.L. (2007). Upper echelon theory revisited: The relationship between Upper echelon diversity, the adoption of diversity practices and organizational performance. CAHRS Working Paper Series. Cornell University.
- Pelled, L. (1996). Demographic diversity, conflict and work group outcomes: An intervening process theory. *Organization Science*, 7, 615-631.
- Pelled, L. H., Eisenhardt, K. M. and Xin, K. R. (1999). Exploring the black box: An analysis of work group diversity, conflict and performance. *Administrative Science Quarterly*, 44, 1-28.
- Petersen, R. (2000). The management of a diverse workforce in the business environment of Israel and possible applications for South Africa. *Dissertation Abstracts International Section B: The Science and Engineering*, 60, 4284.
- Pfeffer, J. (1972). Size and composition of corporate board of directors. *Administrative Science Quarterly*, 21, 218-228.
- Pfeffer, J. and Salancik, G. R. (1978). *The external control of organizations: A resource dependence perspective*. New York: Harper & Row.

- Roberson, Q. M. and Park, H. J. (2007). Examining the link between diversity and firm performance: The effects of diversity reputation and leader racial diversity. *Group & Organization Management*, 32, 548-568.
- Rosenthal, R. and Rosnow, R. L. (1984). *Essentials of behavioural research*. NY: McGraw Hill.
- Rutledge, J. M. (1994). *Building board diversity*. Washington DC: National Center for Non-Profit Boards.
- Siciliano, J. (1996). The relationship of board member diversity to organizational performance. *Journal of Business Ethics*, 15, 1313-1321.
- Smith, K. G., Smith, K. A., Olian, J. D., Sims, H. P., O'Bannon, D. P. and Scully, J. A. (1994). Top management demography and process: the role of social integration and communication. *Administrative Science Quarterly*, 39, 412-38.
- Thomas, A. S. and Ramaswamy, K. (1994). Matching managers to strategy: An investigation of performance implications and boundary conditions. *Australian Journal of Management*, 19(1), 73-93.
- Timmermen, T. (2000). Racial diversity, age diversity, interdependence and team performance. *Small Group Research*, 31, 592-606.
- Vafeas, N. (1999). Board meeting frequency and firm performance. *Journal of Financial Economics*, 53, 113-142.
- Watson, E., Kumar, K. and Michaelsen, L. (1993). Cultural diversity's impact on interaction process and performance: Comparing homogeneity and diverse task groups. *Academy of Management Journal*, 36, 590-603.
- Watson, W., Johnson, L. and Merritt, D. (1998). Team orientation, self orientation and diversity in task groups: Their connection to team performance over Time. *Group and Organization Management*, 23, 161-189.
- Weir, C., Laing, D. and McKnight, P. J. (2001). An empirical analysis of the impact of corporate governance mechanisms on the performance of UK firms, Working Paper, <http://www.ssrn.com>
- Widmer, C. (1987). Minority participation of boards of directors of human services: Some evidence and suggestions. *Journal of Voluntary Action Research*, 16(4), 33-44.
- Williams, K.Y. and O'Reilly. (1998). Demographic and diversity in organizations: A review of 40 years of research, in Staw, BM and Cummings LL(eds). *Research in Organizational Behaviour*, 20, 77-140.
- Williamson, O. (1984). Corporate Governance. *Yale Law Journal*, 93, 1197-1229.
- Yin, R. (1973). Identity definition and maintenance. In R. Yin (Ed), *Race, creed, Color or national origin: A reader on racial and ethnic identities in American society*: pp 45-48. Itasca, IL:F.E. Peacock Publishers, Inc.
- Zahra, S. and Pearce, J. (1989). Boards of directors and corporate financial performance: A review and integrative model. *Journal of Management*, 15, 291-344.
- Zander, A. (1979). The psychology of group processes. *Annual Review of Psychology*, 30, 417-51.
- Zander, A. (1993). *Making boards effective: The dynamics of non profit governing boards*. San Francisco, CA: Jossey Bass.

Table 1. Mean and Correlation results

Variables	Mean	1	2	3	4	5	6	7	8	9	10
1. Gender	0.135	1									
2. Ethnicity	0.525	-.073	1								
3. Board size	8.320	-.073	.008	1							
4. Firm size <sup>a</sup>	6.238	.016	-.113	.070	1						
5. Firm age <sup>b</sup>	30.520	-.121	-.026	-.157	.013	1					
6. ROA	3.815	.052	<b>.263**</b>	.111	-.014	-.185	1				
7. ROE	7.895	-.019	.160	.050	.017	-.102	<b>.546**</b>	1			
8. ROA'00	5.053	.103	<b>.243*</b>	-.016	-.135	-.148	<b>.417**</b>	<b>.362**</b>	1		
9. ROE'00	9.001	.129	.186	-.068	-.034	-.103	<b>.275**</b>	<b>.266**</b>	<b>.886**</b>	1	
10. ROA'03	5.627	-.010	<b>.203*</b>	.080	<b>-.211*</b>	-.187	<b>.561**</b>	<b>.392**</b>	<b>.617**</b>	<b>.435**</b>	1
11. ROE'03	9.842	.012	.186	.044	<b>-.197*</b>	-.170	<b>.263**</b>	<b>.354**</b>	<b>.442**</b>	<b>.459**</b>	<b>.770**</b>

a in billions, b in years, \* p < 0.05, \*\* p < 0.01

Table 2. Parameter Estimates from Cross-sectional Regressions of Financial Performance on Demographic Diversity (2000 – 2006)

Independent Variables	2000		2001		2002		2003		2004		2005		2006	
	ROA	ROE	ROA	ROE	ROA	ROE	ROA	ROE	ROA	ROE	ROA	ROE	ROA	ROE
Constant	4.701	<b>11.451<sup>a</sup></b>	<b>6.176<sup>a</sup></b>	<b>16.123<sup>a</sup></b>	4.824	11.151	1.682	3.260	-1.388	-.934	-5.614	.336	<b>-9.677<sup>a</sup></b>	-3.848
Gender	4.452	14.616	11.891	8.932	-3.384	2.317	.566	1.663	-4.407	-36.139	16.197	<b>34.977<sup>b</sup></b>	9.801	-10.072
Ethnicity	3.182	3.810	1.751	3.588	1.462	3.657	1.125	1.591	<b>8.781<sup>c</sup></b>	<b>17.714<sup>c</sup></b>	<b>10.626<sup>c</sup></b>	<b>12.169<sup>b</sup></b>	<b>7.063<sup>a</sup></b>	6.377
Board size	.092	-.401	-.127	-.765	.264	-.135	.259	.510	.379	.908	.297	-.217	.305	.255
Firm size	<b>-.474<sup>b</sup></b>	-.538	-.260	-.508	-.280	-.452	-.112	-.039	.021	<b>.676<sup>a</sup></b>	.019	.075	.086	.109
Firm age	-.054	-.058	-.056	-.087	-.088	-.189	-.024	-.039	-.017	-.096	-.007	-.007	-.046	-.045
ROA'00							<b>.417<sup>c</sup></b>						.123	
ROA'03													<b>1.100<sup>c</sup></b>	
ROE'00								<b>.474<sup>c</sup></b>						.178
ROE'03														<b>.685<sup>b</sup></b>
R-square (%)	9.9	6.0	7.4	7.5	4.5	3.6	41.0	23.2	9.2	13.6	12.8	13.0	36.8	15.7
F-test	<b>.078<sup>a</sup></b>	312	.195	.192	.488	.618	<b>.000<sup>c</sup></b>	<b>.000<sup>c</sup></b>	.102	<b>.016<sup>c</sup></b>	<b>.023<sup>b</sup></b>	<b>.020<sup>b</sup></b>	<b>.000<sup>c</sup></b>	<b>.024<sup>b</sup></b>

Dependent variable: Performance, a ~ p < 0.10, b ~ p < 0.05, c ~ p < 0.01

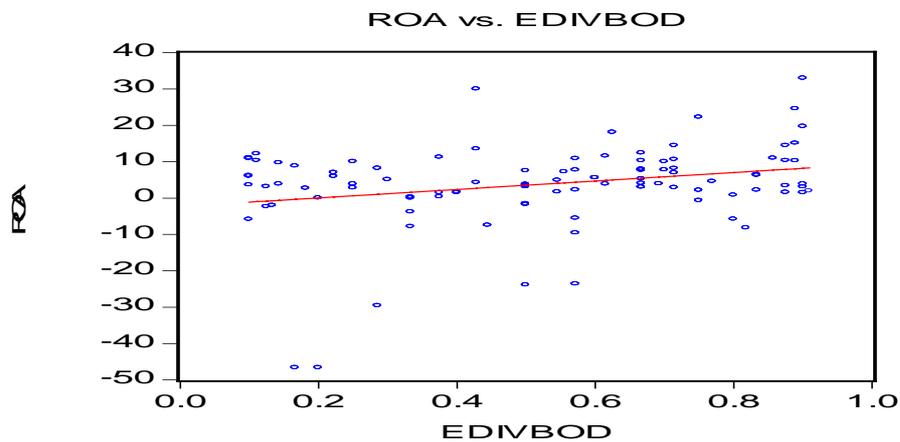


Figure 1. Scatter fit between ethnic diversity and ROA

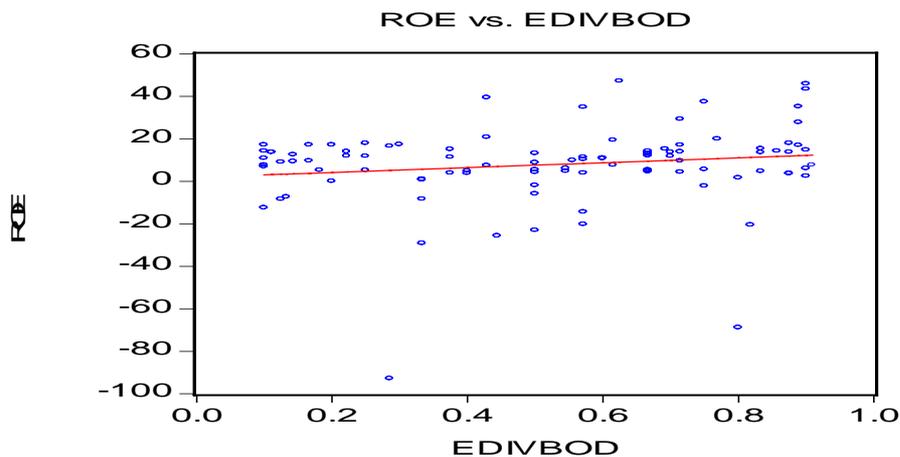


Figure 2. Scatter fit between ethnic diversity and ROE

**Appendix 1. Top 100 non-financial companies**

<b>No</b>	<b>Company</b>	<b>No</b>	<b>Company</b>
1	AKN Technology Bhd	51	Malayan United Industries Bhd
2	Batu Kawan Bhd	52	Malaysian Airline System Bhd
3	Amway (Malaysia) Hldgs Bhd	53	Malaysian Mosaics Bhd
4	APM Automotive Holdings Bhd	54	Malaysian Oxygen Bhd
5	Asiatic Development Bhd	55	Malaysian Pacific Ind Bhd
6	Bandaraya Developments Bhd	56	Marco Holdings Bhd
7	Berjaya Land Bhd	57	MISC Bhd
8	Berjaya Sports Toto Bhd	58	MMC Corporation Bhd
9	Bintulu Port Holdings Bhd	59	Mulpha International Bhd
10	Boustead Heavy Industries Corp Bhd	60	NCB Holdings Bhd
11	Boustead Holdings Bhd	61	Nestle (Malaysia) Bhd
12	British American Tobacco (M)	62	Oriental Holdings Bhd
13	Cahaya Mata Sarawak Bhd	63	Pan Malaysia Corporation Bhd
14	Camerlin Group Bhd	64	Pan Malaysian Industries Bhd
15	Carlsberg Brewery Malaysia Bhd	65	Panasonic Manufacturing Malaysia Bhd
16	Chemical Co of Malaysia Bhd	66	Petaling Tin Bhd
17	Country Heights Holdings Bhd	67	Petronas Dagangan Bhd
18	Dialog Group Bhd	68	Petronas Gas Bhd
19	DIGI.Com Bhd	69	PPB Group Bhd
20	DRB-Hicom Bhd	70	PPB Oil Palms Bhd
21	Esso Malaysia Bhd	71	PSC Industries Bhd
22	Fraser & Neave Holdings Bhd	72	Puncak Niaga Holdings Bhd
23	Gamuda Bhd	73	Ramatex Bhd
24	Genting Bhd	74	RB Land Holdings Bhd
25	Globetronics Technology Bhd	75	Resorts World Bhd
26	Golden Hope Plantations Bhd	76	Road Builder (M) Hldgs Bhd
27	Guinness Anchor Bhd	77	Shell Refining Co (FOM) Bhd
28	Hap Seng Consolidated Bhd	78	Sime UEP Properties Bhd
29	Hume Industries (Malaysia) Bhd	79	Star Publications
30	IGB Corporation Bhd	80	Sunway Holdings Incorp Bhd
31	IJM Corporation Bhd	81	TA Ann Holdings Bhd
32	KFC Holdings (Malaysia) Bhd	82	TA Enterprise Bhd
33	Kian Joo Can Factory Bhd	83	Talam Corporation Bhd
34	KSL Holdings Bhd	84	Tan Chong Motor Holdings Bhd
35	Kuala Lumpur Kepong Bhd	85	Tanjong Public Limited Company
36	KUB Malaysia Bhd	86	TH Group Bhd
37	Kulim (Malaysia) Bhd	87	Tradewinds (M) BHD
38	Kumpulan Guthrie Bhd	88	Time Dot Com Berhad
39	IOI Corporation Bhd	89	Time Engineering Bhd
40	IOI Properties Bhd	90	Top Glove Corporation Bhd
41	Island & Peninsular Bhd	91	Transmile Group Bhd
42	Jaya Tiasa Holdings Bhd	92	UBG Bhd
43	JT International Bhd	93	Uchi Technologies Bhd
44	K & N Kenanga Holdings Bhd	94	UMW Holdings Bhd
45	Kwantas Corporation Bhd	95	Unisem (M) Bhd
46	Lingkar Transkota Hldgs Bhd	96	WCT Engineering Bhd
47	Lingui Developments Bhd	97	WTK Holdings Berhad
48	Lion Corporation Bhd	98	YTL Cement Bhd
49	Magnum Corporation Bhd	99	YTL Corporation Bhd
50	Malakoff Bhd	100	YTL Power International Bhd